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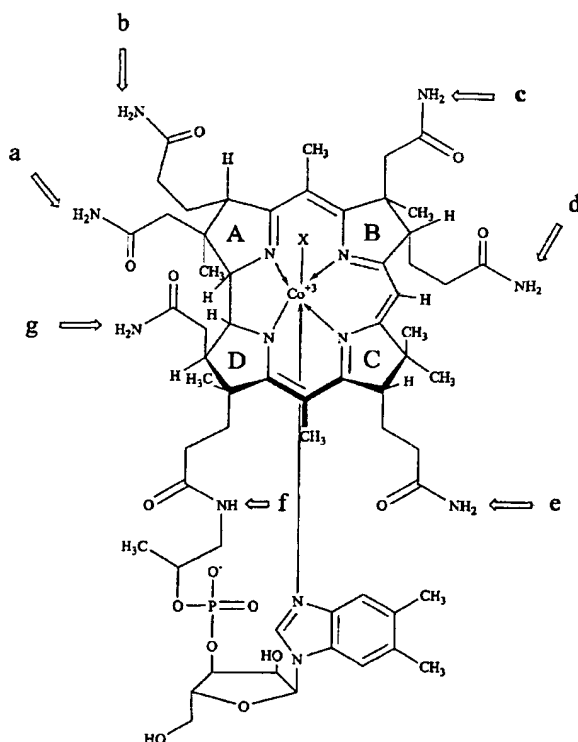
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(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI,

[Continued on next page]

(54) Title: **TRANSCOBALAMIN BINDING CONJUGATES USEFUL FOR TREATING ABNORMAL CELLULAR PROLIFERATION**



(57) Abstract: An agent, composition and method for the treatment, prophylaxis and/or diagnosis of proliferative disorders, which is highly and efficiently absorbed at the site of abnormal cellular proliferation is disclosed.



SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU,
ZA, ZW.

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 01/51328

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07H23/00 A61K31/70 A61K51/00 A61K47/48 A61P35/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07H A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 96 04016 A (AMGEN INC) 15 February 1996 (1996-02-15) the whole document, in particular page 10, line 28, claims 1-5,7 ---	1-42
Y	US 5 428 023 A (RUSSELL-JONES GREGORY J ET AL) 27 June 1995 (1995-06-27) cited in the application the whole document ---	1-42
Y	WO 97 18231 A (COLLINS DOUGLAS A ;MAYO FOUNDATION (US); UNIV MINNESOTA (US); HOGE) 22 May 1997 (1997-05-22) cited in the application the whole document, in particular page 6, lines 19-29, claims 7,10 ---	1-42
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"8" document member of the same patent family

Date of the actual completion of the international search

28 June 2002

Date of mailing of the international search report

27 09 2002

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US 01/51328

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 840 880 A (MORGAN JR A CHARLES ET AL) 24 November 1998 (1998-11-24) cited in the application the whole document, in particular: column 5, lines 28-40; column 33, 1.52-60; column 35, Table 9; column 37, lines 24-15 ---	1-42
Y	WO 94 27641 A (BIOTECH AUSTRALIA PTY LTD ;GOULD ALISON RUTH (AU); MCINERNEY BERNA) 8 December 1994 (1994-12-08) cited in the application page 6, line 28 - page 9, line 24 ---	1-42
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E	WO 02 42318 A (COLLINS DOUGLAS A ;MAYO FOUNDATION (US); UNIV MINNESOTA (US); HOGE) 30 May 2002 (2002-05-30) the whole document ---	1-42
E	WO 01 92288 A (COLLINS DOUGLAS A ;MAYO FOUNDATION (US); UNIV MINNESOTA (US); HOGE) 6 December 2001 (2001-12-06) the whole document -----	1-42

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/51328

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 16-20, 23, 35-39, 42 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-42 partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-42 partially

Vitamin B12-conjugates of formula 1 as defined in claim 1 wherein Y is not as it is found in natural vitamin B12; pharmaceutical compositions containing them; uses thereof.

2. Claims: 1-42 partially

Vitamin B12-conjugates of formula 1 as defined in claim 1 wherein R is not as it is found in natural vitamin B12; pharmaceutical compositions containing them; uses thereof.

3. Claims: 1-42 partially

Vitamin B12-conjugates of formula 1 as defined in claim 1 wherein G is not as it is found in natural vitamin B12; pharmaceutical compositions containing them; uses thereof.

4. Claims: 1-42 partially

Vitamin B12-conjugates of formula 1 as defined in claim 1 wherein E is not as it is found in natural vitamin B12; pharmaceutical compositions containing them; uses thereof.

5. Claims: 1-42 partially

Vitamin B12-conjugates of formula 1 as defined in claim 1 wherein K is not as it is found in natural vitamin B12; pharmaceutical compositions containing them; uses thereof.

6. Claims: 1-42 partially

Vitamin B12-conjugates of formula 1 as defined in claim 1 wherein M is not as it is found in natural vitamin B12; pharmaceutical compositions containing them; uses thereof.

7. Claims: 1-42 partially

Vitamin B12-conjugates of formula 1 as defined in claim 1 wherein V is not as it is found in natural vitamin B12; pharmaceutical compositions containing them; uses thereof.

8. Claims: 12-42 partially

Vitamin B12-conjugates wherein Y, R, G, E, K, M and V are as

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

they are found in natural Vitamin B12, i.e. compounds of formula 1 as defined in claim 12; pharmaceutical compositions containing them; pharmaceutical compositions containing compounds of formula 1 as defined in claim 24; uses thereof.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/51328

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